APPENDIX B

DEQ's AND EPA's FINAL DETERMINATION OF APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS FOR THE RECORD OF DECISION

LOCKWOOD SOLVENT GROUND WATER PLUME SITE

CONTENTS

CONTENTS (Continued)

LIST OF ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirements
ARM	Administrative Rules of Montana
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BPJ	Best Professional Judgment
BTCA	Best Technology Currently Available
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
DEQ	State of Montana Department of Environmental Quality
DNRC	State of Montana Department of Natural Resources and Conservation
EPA	U.S. Environmental Protection Agency
MCA	Montana Code Annotated
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MPDES	Montana Pollutant Discharge Elimination System
NCP	National Contingency Plan, as amended
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SIP	State Implementation Plan
TBC	To Be Considered
WQB-7	Circular WQB-7, Montana Numeric Water Quality Standards (January 2004)

INTRODUCTION

Section 121(d) of CERCLA, 42 U.S.C. § 9621(d), certain provisions of the current National Contingency Plan (the NCP), 40 CFR Part 300, and guidance and policy issued by the Environmental Protection Agency (EPA) require that remedial actions taken pursuant to Superfund authority shall require or achieve compliance with substantive provisions of applicable or relevant and appropriate standards, requirements, criteria, or limitations from state environmental and facility siting laws, and from federal environmental laws, at the completion of the remedial action, during the implementation of the remedial action, or both, depending on the nature of the requirements, unless a waiver is granted[1]. If contaminant or location specific ARARs are not being met before the commencement of a remedial action, it is not necessary to invoke a waiver to justify their non-attainment during the action, although they must be obtained (or appropriately waived) for remedial action to be complete and the remedy to be successful[2]. These requirements are threshold standards that any selected remedy must meet, unless adequate basis for a waiver is present. See Section 121(d)(4) of CERCLA, 42 U.S.C. § 9621(d)(4); 40 CFR § 300.430(f)(1). EPA calls standards, requirements, criteria, or limitations identified pursuant to section 121 (d) "ARARs," or applicable or relevant and appropriate requirements.

ARARs are either applicable or relevant and appropriate. Applicable requirements are those standards, requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstance found at a CERCLA site. 40 CFR § 300.5. Relevant and appropriate requirements are those standards, requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to hazardous substances, pollutants, contaminants, remedial actions, locations, or other circumstances found at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site such that their use is well suited to the particular site. Id. Factors which may be considered in making this determination are presented in 40 CFR § 300.400(g)(2). Compliance with both applicable and relevant and appropriate requirements is mandatory, unless compliance is waived. 42 U.S.C. § 121(d)(4); 40 CFR § 300.430(f)(1)(c).

Each ARAR or group of related ARARs identified here is followed by a specific statutory or regulatory citation, a classification describing whether the ARAR is applicable or relevant and appropriate, and a description which summarizes the requirements, and addresses how and when compliance with the ARAR will be measured (some ARARs will govern the conduct of the remedial action, some will define the measure of success of the remedial action, and some will do both)[3]. The descriptions given here are provided to allow the user a reasonable understanding of the requirements without having to refer constantly to the statute or regulation itself. However in the event of any inconsistency between the law and the summary provided in this document, the applicable or relevant and appropriate requirement is ultimately the requirement as set out in the law, rather than any paraphrase of the law provided here.

Also contained in this list are policies, guidance or other sources of information which are "to be considered" in the selection of the remedy and implementation of the record of decision (ROD). Although not enforceable requirements, these documents are important sources of information which EPA and the State of Montana Department of Environmental Quality (DEQ) may consider during

[1] See 55 Fed.Reg. 8666, 8755 (March 8, 1990).

[2] EPA CERCLA Compliance with Other Laws Manual 1-8 (OSWER 9234.1-01, August 1988).

[3] 40 CFR § 300.435(b)(2); Preamble to the Proposed NCP, 53 Fed.Reg. 51440 (December 21, 1988); Preamble to the Final NCP, 55 Fed.Reg. 8755-8757 (March 8, 1990).

selection of the remedy, especially in regard to the evaluation of public health and environmental risks; or which will be referred to, as appropriate, in selecting and developing cleanup actions. Finally, this list contains a non-exhaustive list of other legal provisions or requirements which should be complied with during the implementation of the ROD[4].

ARARs are divided into contaminant specific, location specific, and action specific requirements, as described in the NCP and EPA guidance. For contaminant specific ARARs, ARARs are listed according to the appropriate media.

Contaminant specific ARARs include those laws and regulations governing the release to the environment of materials possessing certain chemical or physical characteristics or containing specific chemical compounds. Contaminant specific ARARs generally set health or risk based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that my be found in, or discharged to, the ambient environment. Location specific ARARs are restrictions placed on the concentration of hazardous substances or the conduct of cleanup activities because they are in specific locations. Location specific ARARs relate to the geographic or physical position of the site, rather than to the nature of site contaminants. Action specific ARARs are usually technology or activity based requirements or limitations on actions taken with respect to hazardous substances.

Only the substantive portions of the requirements are ARARs[5]. Administrative requirements are not ARARs and thus do not apply to actions conducted entirely on-site. Administrative requirements are those which involve consultation, issuance of permits, documentation, reporting, record keeping, and enforcement. The CERCLA program has its own set of administrative procedures which assure proper implementation of CERCLA. The application of additional or conflicting administrative requirements could result in delay or confusion[6]. Provision of statutes or regulations which contain general goals that merely express legislative intent about desired outcomes or conditions but are non-binding are not ARARs.[7].

Many requirements listed here are promulgated as identical or nearly identical requirements in both federal and state law, usually pursuant to delegated environmental programs administered by both EPA and the states, such as many of the requirements of the federal Clean Water Act and the Montana Water Quality Act. The Preamble to the final NCP states that such a situation results in citation to the state provision as the appropriate standard, but treatment of the provisions as a federal requirement. ARARs and other laws which are unique to state law are identified separately by the State of Montana.

This list constitutes EPA's and DEQ's detailed description of ARARs for use in the implementation of the Record of Decision for the Lockwood Solvent Ground Water Plume Site and resulting remedial design and remedial action decisions.

---

4 40 CFR § 300.400(g)(3); 40 CFR § 300.515(h)(2); Preamble to the Final NCP, 55 Fed.Reg. 8744-8746 (March 8, 1990).

5 40 CFR § 300.5. See also Preamble to the Final NCP, 55 Fed.Reg. 8756-8757 (March 8, 1990).

6 Preamble to the Final NCP, 55 Fed.Reg. 8756-8757 (March 8, 1990); Compliance with Other Laws Manual, Vol.1, pp. 1-11 - 1-12.

7 Preamble to the Final NCP, 55 Fed.Reg. 8746 (March 8, 1990)

The Selected Remedy is expected to meet all ARARs. EPA and DEQ have determined that no ARAR waiver will be necessary for the Lockwood Solvent Ground Water Plume Site.

The ARAR analysis is based on section 121(d) of CERCLA, 42 U.S.C. § 9621 (d); CERCLA Compliance with Other Laws Manual, Volumes I and II; OSWER Directives 9234.1-01 and -02 (August 1988 and August 1989 respectively; various CERCLA ARARs Fact Sheets issued as OSWER Directives; the Preamble to the Proposed NCP, 53 Fed. Reg. 51394, et seq. (December 21, 1988); the Preamble to the Final NCP, 55 Fed. Reg. 8666-8813 (March 8, 1990); and the final NCP, 40 CFR Part 300; other applicable guidance; and the substantive provisions of law discussed in this document.

FEDERAL ARARS

1. FEDERAL CONTAMINANT SPECIFIC REQUIREMENTS

A. Groundwater Standards - Safe Drinking Water Act (Relevant and Appropriate) [8]

The National Primary Drinking Water Standards (40 CFR Part 141), better known as maximum contaminant levels and maximum contaminant level goals (MCLs and MCLGs), are not applicable because the groundwater underlying the Lockwood Solvent Ground Water Plume Site is not currently the source for a public drinking water system as defined in the Safe Drinking Water Act, 42 U.S.C. § 300f(4). However, these standards are relevant and appropriate because the groundwater is an actual and potential source of drinking water by means of private wells within the boundaries of the site. Furthermore, the aquifer discharges to the Yellowstone River, which is a potential source of drinking water (and is a current source of a public water supply system upstream of the Lockwood Solvent Ground Water Plume Site). Accordingly, these standards are relevant and appropriate for that surface water as well.

Use of these standards for this action is fully supported by EPA regulations and guidance. The Preamble to the NCP clearly states that MCLs are relevant and appropriate for groundwater that is a current or potential source of drinking water (55 Fed. Reg. 8750, March 8, 1990), and this determination is further supported by requirements in the regulations governing conduct of the RI/FS studies found at 40 CFR § 300.430(e)(2)(i)(B). EPA's guidance on Remedial Action for Contaminated Groundwater at Superfund Sites states that "MCLs developed under the Safe Drinking Water Act generally are ARARs for current or potential drinking water sources." MCLGs which are above zero are relevant and appropriate under the same conditions (55 Fed. Reg. 8750-8752, March 8, 1990). See also, State of Ohio v. EPA, 997 F.2d 1520 (D.C. Cir. 1993), which upholds EPA's application of MCLs and non-zero MCLGs as ARAR standards for groundwater which is a potential drinking water source.

As noted earlier, standards such as the MCL and MCLG standards are promulgated pursuant to both federal and state law. Under the Safe Drinking Water Act, EPA has granted the State of Montana primacy in implementation of the Safe Drinking Water Act. The State has promulgated its own public water supply ground water standards through the Public Water Safety Act for most contaminants of concern, primarily through incorporation by reference of the federal standard. These standards are also identified here.

[8] 42 U.S.C. §§ 300f, et seq.

Chemical	MCLG	MCL
Vinyl Chloride	0	0.002 mg/L
Tetrachloroethene	0	0.005 mg/L
Trichloroethene	0	0.005 mg/L
Cis-1,2-Dichloroethene	0.07 mg/L	0.070 mg/L
Trans-1,2-Dichloroethene	0.2 mg/L	0.100 mg/L

These standards incorporate potentially relevant and appropriate Resource Conservation and Recovery Act (RCRA) standards for groundwater found at 40 CFR Part 264, Subpart F, which is incorporated pursuant to state law at ARM 17.53.801.

B. Surface Water - Ambient and Point Source Discharges - Clean Water Act (Applicable) [9]

CERCLA and the NCP provide that federal water pollution criteria that match designated or anticipated surface water uses are the usual surface water standards to be used at Superfund cleanups, as relevant and appropriate standards, unless the state has promulgated surface water quality standards pursuant to the delegated state water quality act. The State of Montana has designated uses for the Yellowstone River, and has promulgated specific numeric water quality standards accordingly. Those standards as well as other surface water standards are included in the State ARARs identified below.

C. Stormwater Runoff Controls (Applicable)

If point sources of water contamination are retained or created by any Lockwood Solvent Ground Water Plume Site remediation activity, applicable Clean Water Act standards would apply to those discharges. These include the general requirements and storm water regulations found at 40 CFR Parts 122 and 125 (general conditions and industrial activity conditions). The storm water regulations address non-agricultural sources of storm water discharges which adversely affect water quality. Generally, these permits require the permittee to implement Best Management Practices (BMPs) and to take all reasonable steps to minimize or prevent any discharge which has a reasonable likelihood of adversely affecting human health or the environment. However, if there is evidence indicating potential or realized impacts on water quality due to storm water discharge associated with a remedial activity, substantive standards associated with an individual National Pollutant Discharge Elimination System (NPDES) permit or alternative general permit may be required (or Montana Pollutant Discharge Elimination System (MPDES) permit or alternative general permit under the State program).

D. Air Standards - Clean Air Act (Applicable)[10]

Federal air quality standards are not currently exceeded at the Lockwood Solvent Ground Water Plume Site. Limitations on air emissions resulting from cleanup activities or emissions resulting from wind erosion of exposed hazardous substances are set forth in the action specific requirements, below.

[9] 33 U.S.C. §§ 1251 et seq.
[10] 42 U.S.C. §§ 7401 et seq.

II. FEDERAL LOCATION SPECIFIC REQUIREMENTS

A. Fish and Wildlife Coordination Act (Applicable)

These standards are found at 16 U.S.C. §§ 661, et seq. and 40 CFR § 6.302(g). They require that federally funded or authorized projects ensure that any modification of any stream or other water body affected by a federally funded or authorized action provide for adequate protection of fish and wildlife resources. Compliance with this ARAR necessitates EPA consultation with the U.S. Fish and Wildlife Service (USFWS) and the State of Montana Department of Fish, Wildlife, and Parks. Further consultation with these agencies will occur during remedial design and implementation of the remedial action, and specific mitigative or other measures may be identified to achieve compliance with this ARAR. The purpose of consultation is to develop measures to prevent, mitigate, or compensate for project-related losses to fish and wildlife. Mitigative measures must be performed by the persons who implement any selected remedy.

B. Floodplain Management Order (Applicable)

This requirement (40 CFR Part 6, Appendix A, Executive Order No. 11,988) mandates that federally funded or authorized actions within the 100 year floodplain avoid, to the maximum extent possible, adverse impacts associated with development of a floodplain. Compliance with this requirement is detailed in EPA's August 6, 1985 "Policy on Floodplains and Wetlands Assessments for CERCLA Actions." If the selected remedial action adversely impacts the Yellowstone River floodplain, specific measures to minimize adverse impacts may be identified following EPA consultation with the appropriate agencies. These measures shall be performed by the persons who implement any selected remedy.

In addition, if the remedial action selected for the Lockwood Solvent Groundwater Site is found to potentially adversely impact the floodplain, the following information will be produced: a Statement of Findings which will set forth the reasons why the proposed action must be located in or affect the floodplain; a description of significant facts considered in making the decisions to locate in or affect the floodplain including alternative sites or actions; a statement indicating whether the selected action conforms to applicable state or local floodplain protection standards; a description of the steps to be taken to design or modify the proposed action to minimize the potential harm to or within the floodplain; and a statement indicating how the proposed action affects the natural or beneficial values of the floodplain.

C. Protection of Wetlands Order (Applicable)

This requirement (40 CFR Part 6, Appendix A, Executive Order No. 11,990) mandates that federal agencies and potentially responsible parties (PRPs) avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands, to minimize the destruction or loss of wetlands and to avoid new construction in wetlands if a practicable alternative exists. Section 404(b)(1), 33 U.S.C. § 1344, also prohibits the discharge of dredged or fill material into waters of the United States except under certain conditions and only in approved locations. Together, these requirements create a “no net loss” of wetlands standard.

Wetlands are found along the western portion of the site. Compliance with this ARAR will be achieved through EPA consultation with the U.S. Fish and Wildlife Service, to determine the category of wetlands present at the site, and any avoidance or mitigation and replacement which may be necessary in the event the wetlands could be affected. Avoidance, mitigation or replacement activities will be addressed in the remedial design and will be performed by the persons who implement any selected remedy.

D. The Endangered Species Act (Applicable)

This statute and implementing regulations (16 U.S.C. §§ 1531 - 1544, 50 CFR Part 402, and 40 CFR 6.302(h)) require that any federal activity or federally authorized activity may not jeopardize the continued existence of any threatened or endangered species known to live or to have lived in the affected environment or destroy or adversely modify a critical habitat. This ARAR requires EPA to ensure that the selected remedy is sufficiently protective of the environment containing the threatened or endangered species, with an emphasis on reducing the risks from the contaminants of concern to the listed species described in the EPA risk assessment to an acceptable level, with consideration given to the special status of the listed or threatened species - see 40 CFR §§ 300.430(d)(2)(vii) and (e)(2)(i)(G) and EPA Guidance Document OSWER Dir. No. 9285.7-28P, Ecological Risk Assessment and Risk Management principles for Superfund Sites (October, 1999) page 3; and to ensure that the selected remedy is implemented in a manner that effects on any existing the threatened or endangered species from the active remedy implementation activities are avoided or mitigated - see page 4-12 of the CERCLA Compliance with Other Laws Manual: Volume II (EPA August 1989). The Remedial Investigation Report for the Lockwood Solvent Ground Water Plume Site states that no threatened and endangered species are "definitively known" to occur at the site, but that it is possible that the home ranges of the following species could overlap the site: bald eagle (federally listed and threatened), black-footed ferret (federally listed and endangered), mountain plover (proposed threatened), and black-tailed prairie dog (a candidate species under consideration for listing). Compliance with this ARAR will be achieved through consultation with the U.S. Fish and Wildlife Service and the Montana Department of Fish, Wildlife and Parks as remedial designs are completed. Specific mitigative or other measures may be identified. These mitigative or other measures must be implemented by the persons who implement any selected remedy.

E. The National Historic Preservation Act (Applicable)

This statute and implementing regulations (16 U.S.C. §§ 470, et seq, 40 CFR § 6.301(b), 36 CFR Part 800) require federal agencies or federal projects to take into account the effect of any federally assisted undertaking or licensing on any district, site building, structure, or object that is included in, or eligible for, the Register of Historic Places. If effects cannot be avoided reasonably, measures should be implemented to minimize or mitigate the potential effect. In addition, Indian cultural and historical resources must be evaluated, and effects avoided, minimized, or mitigated.

F. Archaeological and Historic Preservation Act (Applicable)

The statute and implementing regulations (16 U.S.C. § 469, et seq., 40 CFR § 6.301(c)) establish requirements for evaluation and preservation of historical and archaeological data, including Indian cultural and historic data, which may be destroyed through alteration of terrain as a result of federal construction projects or a federally licensed activity or program. If eligible scientific, prehistorical, or archaeological data are discovered during site activities, they must be preserved in accordance with these requirements.

G. Historic Sites, Buildings, and Antiquities Act (Applicable)

This statute and implementing regulations (16 U.S.C. § 461, et seq., 40 CFR § 6.301(a)) state that in conducting an environmental review of a proposed EPA action, the responsible official shall consider the existence and location of natural landmarks using information provided by the National Park Service pursuant to 36 CFR § 62.6(d) to avoid undesirable impacts upon such landmarks.

H. Migratory Bird Treaty Act (Applicable)

This requirement (16 U.S.C. §§ 703, et seq.) establishes a federal responsibility for the protection of the international migratory bird resource and requires continued consultation by EPA with the USFWS during remedial design and remedial construction to ensure that the cleanup of the site does not unnecessarily impact migratory birds. Specific mitigative measures may be identified for compliance with this requirement as appropriate for performance by the persons who implement the remedy.

I. Bald Eagle Protection Act (Applicable)

This requirement (16 U.S.C. §§ 668, et seq.) establishes a federal responsibility for protection of bald and golden eagles, and requires continued consultation by EPA with the USFWS during remedial design and remedial construction to ensure that any cleanup of the site does not unnecessarily adversely affect the bald and golden eagle. Specific mitigative measures may be identified for compliance with this requirement as appropriate, and will be done by the persons who implement any selected remedy.

J. Native American Grave Protection and Repatriation Act, 25 U.S.C. § 3001, et seq.; 43 CFR §§ 10.1 - 10.17 (Applicable or Relevant and Appropriate)

NAGPRA and its implementing regulations provide for the disposition of Native American remains and objects inadvertently discovered on federal or tribal lands after November, 1990. 25 U.S.C. § 3002(d). If the response activities result in the discovery of Native American human remains or related objects, the activity must stop while the head of the federal land management agency (if federal lands are involved) and appropriate Indian tribes are notified of the discovery. After the discovery, the response activity must cease and a reasonable effort must be made to protect the Native American human remains or related objects. The response activity may later resume. 42 CFR § 10.4. Accordingly, depending on the facts of the discovery and location of the response action, NAGPRA could be applicable or relevant and appropriate to the response action.

III. FEDERAL ACTION SPECIFIC REQUIREMENTS

A. RCRA Hazardous Waste [11] Requirements (Applicable or Relevant and Appropriate)

The contamination at the Lockwood Solvent Ground Water Plume Site is primarily comprised of chlorinated solvents and other volatile organic compounds (VOCs) that were formed through the natural breakdown of the chlorinated solvents. Soils and debris mixed with chlorinated solvents may qualify as RCRA hazardous waste, although EPA and DEQ reserve the right to make a more formal hazardous waste determination and to determine the applicability of RCRA Subtitle C (Hazardous Waste) requirements to the treatment, storage or disposal of such contaminated media at a later date.

The following is assumed: 1) during the clean up contaminated soils and debris may be encountered (soils and debris contaminated with NAPLs); 2) this contaminated media may or may not qualify as a RCRA listed waste [likely as a mixture with F001 wastes, F002 wastes, U listed commercial chemical products when spilled or wastes that are sufficiently similar to a RCRA listed hazardous waste][12]; 3) this contaminated media may or may not exhibit a hazardous characteristic (depending on the volume, toxicity

[11] As noted earlier, federal RCRA regulations are incorporated by reference into applicable state Hazardous Waste Management Act regulations. See ARM 17.53.801.

[12] See 40 CFR § 261.33.

and concentration of hazardous constituents)[13]; 4) if either is the case, RCRA Subtitle C may be determined to be applicable. Even if RCRA Subtitle C is not determined to be applicable, the following requirements address problems or situations sufficiently similar to those encountered that their use is relevant and appropriate to remedial design and remedial action at the Lockwood Solvent Ground Water Plume Site. Therefore, the following requirements should be considered to be ARARs with respect to any active management (i.e., handling, treatment, storage, disposal, grading, ex-situ treatment, transport or removal) of this contaminated media:

1. Standards for Transporters of Hazardous Waste (40 CFR Part 263) (Applicable or Relevant and Appropriate)[14]

The regulations at 40 CFR Part 263 establish standards that apply to persons that transport hazardous waste within the United States. In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify authorities, dike the discharge area). A transporter must then clean up any hazardous waste discharge or take such action as may be required or approved by Federal, State or local officials so that the discharge no longer presents a hazard to human health or the environment. These regulations would be relevant and appropriate to any on-site transportation of contaminated material. Any off-site transportation of hazardous waste would be fully subject to applicable regulations, manifesting and permitting requirements.

2. Standards for Waste Piles (40 CFR Part 264, Subpart L) (Applicable or Relevant and Appropriate)[15]

The regulations at 40 CFR Part 264, Subpart L [40 CFR 264.250 et seq.], establishes a framework for the safe operation of a waste pile until permanent disposal occurs. The framework includes a run-on control system, and a run-off control system and collection and holding systems to prevent the further release of contaminants from the waste pile. These requirements are applicable to areas where contaminated soils or materials are temporarily stored or placed prior to treatment or other disposal. A waste pile must have a liner designed, constructed and installed to prevent any migration of the wastes out of the pile into the adjacent subsurface soil, groundwater or surface water at any time during the active life (including closure) of the waste pile. A leachate collection system and runon/runoff controls must be installed. The pile must be covered or otherwise managed to control wind dispersal.

3. Land Treatment (40 CFR Part 264, Subpart M) (Applicable or Relevant and Appropriate)[16]

---

[13] See 40 C.F.R. §§ 261.21-261.24.

[14] ARM 17.53.701 adopts by reference the federal standards applicable to transporters of hazardous waste (40 CFR 263). ARM 17.53.702 describes any exceptions and additions to the full adoption of the federal rules. ARM 17.53.703 through 708 set out other related state requirements.

[15] ARM 17.53.801 adopts by reference the federal standards applicable to owners and operators of hazardous waste treatment, storage and disposal facilities (40 CFR 264). ARM 17.53.802 describes any exceptions and additions to the full adoption of the federal rules. ARM 17.53.803 sets out other related state requirements.

[16] See ARM 17.53.801 that adopts by reference the federal requirements in 40 CFR Part 264.

The regulations of 40 CFR Part 264, Subpart M [40 CFR 264.270 et seq.], regulate the management of "land treatment units" that treat or dispose of hazardous waste; these requirements are applicable for any land treatment units established at the site.

The owner or operator of a land treatment unit must design treatment so that hazardous constituents placed in the treatment zone are degraded, transformed, or immobilized within the treatment zone. "Hazardous constituents" are those identified in Appendix VIII of 40 CFR Part 261 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone. Design measures and operating practices must be set up to maximize the success of degradation, transformation, and immobilization processes. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation or immobilization of hazardous constituents. The maximum depth of the treatment zone must be no more than 1.5 meters (five feet) from the initial soil surface and more than one meter (three feet) above the seasonal high water table.

Subpart M also requires the construction and maintenance of control features that prevent the run-off of hazardous constituents and the run-on of water to the treatment unit. The unit must also be inspected weekly and after storms for deterioration, malfunctions, improper operation of run-on and run-off control systems, and improper functioning of wind dispersal control measures.

An unsaturated zone monitoring program must be established to monitor soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone. Specifications related to the monitoring program are contained in section 264.278.

4. Landfills (40 CFR Part 264, Subpart N) (Applicable or Relevant and Appropriate)[17]

The requirements of 40 CFR Part 264, Subpart N [40 CFR 264.300 et seq.], applies to entities that dispose of hazardous wastes in landfills. The regulations specify appropriate liner systems and leachate collection systems for landfills, run-on and run-off management systems, and wind dispersal controls for landfills. These regulations specify requirements for landfill monitoring and inspection, surveying and record keeping, and closure and post-closure care. If permanent waste management units are required, these regulations will be applicable to such units.

5. Special Provisions for Cleanup (40 CFR Part 264, Subpart S) (Applicable or Relevant and Appropriate)[18]

The Corrective Action Management Unit (CAMU) under RCRA is specifically intended for treatment, storage and disposal of hazardous remediation waste. The provisions of 40 CFR Part 264, Subpart S [40 CFR 264.550 et seq.] outline specific design, operating, closure and post closure requirements for managing CAMU-eligible wastes during cleanup. Placement of CAMU-eligible wastes does not constitute land disposal of hazardous wastes subject to 40 CFR Part 268. A CAMU is constructed to facilitate implementation of reliable, protective and cost-effective remedies without creating unacceptable risks of exposure to human health or the environment.

CAMU minimum design requirements must include a composite liner and a leachate collection system. Alternative design requirements may be approved upon a finding that the alternate engineered design and

---

17 See ARM 17.53.801 that adopts by reference the federal requirements in 40 CFR Part 264.

18 See ARM 17.53.801 that adopts by reference the federal requirements in 40 CFR Part 264.

operating practices, together with location characteristics will prevent migration of any hazardous constituents in the ground or surface water at least as effectively as the required liner and leachate collection system.

For non-metals placed in a CAMU, treatment must generally achieve 90 percent reduction in total principal hazardous constituent concentrations. For waste exhibiting the hazardous characteristic of ignitability, corrosivity or reactivity, the waste also must be treated to eliminate these characteristics. Alternative treatment standards may be adopted if protective of human health and the environment and the alternative standard meets a number of regulatory factors.

Closure requirements intended to minimize further maintenance and are to be based upon CAMU characteristics, the volume of wastes that remain after closure, potential for releases, physical and chemical characteristics of the waste, hydrological and other relevant environmental conditions at the facility which may influence migration of any potential or actual releases and potential for exposure of human and environmental receptors if releases were to occur from the CAMU.

Where waste is left in place in a CAMU, there are design requirements for an engineered final cover, run-on, run-off controls. Post-closure requirements may include monitoring and maintenance activities, specifying the frequency with which these activities will be performed to ensure the integrity of any cap, final cover or other containment system. CAMUs used only for storage and treatment may meet alternative standards and requirements set out for staging piles in 40 CFR 264.554.

As set forth in 40 CFR 264.255, CAMU eligible wastes, following treatment, may be authorized for placement in permitted off-site hazardous waste landfills without triggering land disposal restrictions under 40 CFR Part 268.

6. Closure and Post-Closure (40 CFR Part 264, Subpart G) (Applicable or Relevant and Appropriate)[19]

The standards for closure and post-closure [40 CFR 264.110 et seq.] may be applicable or relevant and appropriate to any wastes left in place at the Lockwood Solvent Ground Water Plume Site.

7. Land Disposal Restrictions (40 CFR Part 268) (Applicable or Relevant and Appropriate)[20]

The requirements of 40 CFR Part 268 [40 CFR 268.1 et seq.] set out prohibitions upon the land disposal and storage of hazardous constituents without treatment to universal treatment standards. These land disposal restrictions do not apply to certain hazardous remediation wastes managed in a corrective action management unit or stored in staging piles pursuant to special provisions for cleanup set out in 40 CFR Part 264, Subpart S [40 CFR 264.550 et seq.].

---

19 See ARM 17.53.801 that adopts by reference the federal requirements in 40 CFR Part 264.

20 ARM 17.53.1101adopts by reference the federal land disposal restrictions (40 CFR 268). ARM 17.53.1102 describes any exceptions and additions to the full adoption of the federal rules.

B. Hazardous Materials Transportation Act (Applicable or Relevant and Appropriate)

The Hazardous Materials Transportation Act (49 U.S.C. § 5101 et seq.), as implemented by the Hazardous Materials Transportation Regulations (49 CFR Parts 10, 171-177), regulates the transportation of hazardous materials. The regulations apply to any alternatives involving the transport of hazardous waste off-site, on public highways on-site or by rail line.

C. RCRA Solid Waste (Applicable) [21]

For any active management (i.e., treatment, storage, disposal, grading or removal) of solid wastes, the requirements described at 40 CFR §§ 257.3-1 through 257.3-4, governing solid waste handling, storage and disposal are applicable to the Lockwood Solvent Ground Water Plume Site.

D. Surface Mining Control and Reclamation Act (SMCRA)(Relevant and Appropriate) [22]

Reclamation requirements found at 30 CFR Part 816 for surface disturbances created during remedial activities are relevant and appropriate at the Lockwood Solvent Ground Water Plume Site.

E. Air Standards - Clean Air Act (Applicable).[23]

These standards, promulgated pursuant to section 109 of the Clean Air Act are applicable to releases into the air from any Lockwood cleanup activities:

1. Particulate matter that is 10 microns in diameter or smaller (PM-10): No person shall cause or contribute to concentrations of PM-10 in the ambient air that exceed:

   - 150 $\mu g/m^3$ of air, 24-hour average, no more than one expected exceedence per calendar year;
   - 50 $\mu g/m^3$ of air, annual average.

2. Settled particulate matter: No person shall cause or contribute to concentrations of particulate matter in the ambient air such that the mass of settled particulate matter exceeds 10 gm/m^2, 30-day average, not to be exceeded.

These standards are promulgated at ARM 17.8.220 and 223 as part of a federally approved state implementation plan (SIP), pursuant to the Clean Air Act of Montana, §§ 75-2-101, et seq., MCA. Corresponding federal standards are found at 40 CFR § 50.6.

Ambient air standards under section 109 of the Clean Air Act are also promulgated for lead, carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, and ozone. If emissions of these compounds were to occur at the site in connection with any cleanup action, these standards would also be applicable. See ARM 17.8.210 to 214, ARM 17.8.222 and 40 CFR Part 50.

F. Clean Water Act (Applicable)

---

[21] Solid waste regulations are promulgated pursuant to the federal Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6901 et seq.

[22] The Surface Mining Control and Reclamation Act is promulgated at 30 U.S.C. §§ 1201-1326.

[23] 42 U.S.C. §§ 7401, et seq.

1. Point Source Controls (Applicable)

If point sources of water contamination are retained or created by any Lockwood Solvent Ground Water Plume Site remediation activity, applicable Clean Water Act standards would apply to those discharges. The regulations are discussed in the contaminant specific ARAR section, above, and in the State of Montana identification of ARARs. These regulations would include storm water runoff regulations found at 40 CFR Parts 122 and 125 (general conditions and industrial activity conditions). These would also include requirements for monitoring and best management practices found at 40 CFR § 122.44(i) and 40 CFR § 122.44(k) for point source discharges.

2. Dredge and Fill Requirements (Applicable)

Regulations found at 40 CFR Part 230 [CWA 404(b)(1) guidelines] address conditions or prohibitions against depositing dredge and fill material into water of the United States. If remediation activities would result in an activity subject to these regulations, they would be applicable. The scope of these regulations has been altered significantly in a 1998 court decision and regulatory responses found at 66 Fed. Reg. 4549 (January 17, 2001 – effective date temporarily suspended pending further review, 66 FR 10367 [February 15, 2001]). Compliance with this requirement will be achieved at the site of any dredge and fill activity within the Lockwood Solvent Ground Water Plume Site during construction activities through the use of best management practices.

G. Underground Injection Control (Applicable)

Requirements found at 40 CFR Part 144, promulgated pursuant to the Safe Drinking Water Act, allow the re-injection of treated groundwater into the same formation from which it was withdrawn for aquifers and addresses injection well construction, operation, maintenance, and capping/closure. These regulations would be applicable to any reinjection of treated groundwater, and would be relevant and appropriate to the injection of substances into the subsurface for the purpose of enhancing natural attenuation, bioremediation, flushing, or some other form of remediation.

STATE OF MONTANA ARARS

As provided by Section 121 of CERCLA, 42 U.S.C. § 9621, only those state standards that are more stringent than any federal standard and that have been identified by the state in a timely manner are appropriately included as ARARs.

IV. MONTANA CONTAMINANT SPECIFIC REQUIREMENTS

A. Surface Water Quality Standards (Applicable)

Under the Montana Water Quality Act, §§ 75-5-101, et seq., MCA, the state has promulgated water quality standards to protect, maintain, and improve the quality and potability of the state's surface water for water supplies, wildlife, fish and aquatic life, agricultural, industry, recreation, and other beneficial uses. The requirements listed below are applicable water quality standards with which any remedial action must comply.

ARM 17.30.611 classifies the Yellowstone River mainstem from the Billings water supply intake to the North Dakota state line as B-3.

The B-3 classification standards are contained in ARM 17.30.625 (Applicable) of the Montana water quality regulations. The section states:

Waters classified B-3 are to be maintained suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

This section provides that concentrations of carcinogenic, bioconcentrating, toxic or harmful parameters which would remain in water after conventional water treatment may not exceed standards set forth in department circular WQB-7. Discharges may not cause receiving water concentrations to exceed the applicable standards specified in WQB-7 when stream flows equal or exceed the design flows specified in ARM 17.30.635(4)(10-year 7-day low flow, i.e., minimum consecutive 7-day average flow which may be expected to occur on the average of once in 10 years)[24] and also must conform with ARM Title 17, Chapter 30, Subchapter 7 (the nondegradation rules).

The B-3 classification standards at ARM 17.30.625 also include the following criteria: (1) dissolved oxygen concentration must not be reduced below the levels given in department circular WQB-7; (2) induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 9.0 must be less than 0.5 pH unit. Natural pH outside of this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0; (3) the maximum allowable increase above naturally occurring turbidity is 10 nephelometric turbidity units except as permitted in § 75-5-318, MCA; (4) temperature increases must be kept within limits prescribed in this section; (5) no increases are allowed above naturally occurring concentrations of sediment or suspended sediment, settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife; (6) true color must not be increased more than five units above naturally occurring color.

To the extent any of these standards are violated due to hazardous substances or Superfund response action, they must be complied with as part of any selected remedial action.

With respect to the remediation of non-point sources, the WQB-7 standards effectively set the ambient water quality standards that are to be attained by the remedial action. As an ambient standard, the point of compliance for these standards would be throughout the stream, and compliance should be measured by monitoring at several different points within the stream, as determined by any significant point sources or significant reaches of non-point sources.

For the primary contaminants of concern, the WQB-7 levels are listed below. WQB-7 provides that "whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard."

[24] Alternatively, site-specific criteria may be developed using the procedures given in the Water Quality Standards Handbook, Second Edition, (EPA-823-B-94-005a, August 1994), provided that other routes of exposure to toxic parameters by aquatic life are addressed. Such other routes of exposure include, for example, contaminated sediment/food chain routes of exposure. However, no site specific standards have been developed for the Yellowstone River to date and the applicable numeric standards are those set forth in WQB-7.

CONTAMINANT	AQUATIC/ ACUTE	AQUATIC/ CHRONIC	HUMAN HEALTH
Trichloroethene (TCE)	---	---	**5 µg/L**
Cis-1,2-Dichloroethene (DCE)	---	---	**70 µg/L**
Trans-1,2-Dichloroethene (DCE)	---	---	**100 µg/L**
Tetrachloroethene (PCE)	---	---	**5 µg/L**
Vinyl Chloride	---	---	**0.2 µg/L**

Additional restrictions on any discharge to surface waters are included in:

ARM 17.30.637 (Applicable), which prohibits discharges containing substances that will:

(a) settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;
(b) create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials;
(c) produce odors, colors or other conditions which create a nuisance or render undesirable tastes to fish flesh or make fish inedible;
(d) create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life;
(e) create conditions which produce undesirable aquatic life.

In addition, ARM 17.30.637 states that no waste may be discharged and no activities conducted which, either along or in combination with other wastes or activities, will cause violation of surface water quality standards.

ARM 17.30.1203 (Applicable), which adopts and incorporates the provisions of 40 CFR Part 125 for criteria and standards for the imposition of technology-based treatment requirements in MPDES permits. Although the permit requirement would not apply to on-site discharges, the substantive requirements of Part 125 are applicable, i.e., for toxic and nonconventional pollutants, treatment must apply the best available technology economically achievable (BAT); for conventional pollutants, application of the best conventional pollutant control technology (BCT) is required. Where effluent limitations are not specified for the particular industry or industrial category at issue, BCT/BAT technology-based treatment requirements are determined on a case-by-case basis using best professional judgment (BPJ). See CERCLA Compliance with Other Laws Manual, Vol. I, August 1988, p. 3-4 and 3-7.

Placement of Wastes: Section 75-5-605, MCA (Applicable) provides that it is unlawful to cause pollution as defined in § 75-5-103, MCA, of any state waters or to place or cause to be placed any wastes where they will cause pollution of any state waters. Pollution is defined as contamination or other alteration of physical, chemical, or biological properties of state waters that exceeds that permitted by the water quality standards or that will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety or welfare, to livestock, or to wild animals, birds, fish, or other wildlife.

Nondegradation: Section 75-5-303, MCA (Applicable) states that existing uses of state waters and the level of water quality necessary to protect those uses must be maintained and protected. Section 75-5-317, MCA, provides an exemption from nondegradation requirements which allows changes of

existing water quality resulting from an emergency or remedial activity that is designed to protect the public health or the environment and that is approved, authorized, or required by the department. Changes determined to meet these requirements may be considered nonsignificant. In determining that remedial actions are protective of public health and the environment and in approving, authorizing, or requiring such remedial activities, no significant degradation should be approved, considering the criteria for a determination of non-significance set out in 75-5-301(5)(c), which (i) equate significance with the potential for harm to human health, a beneficial use or the environment, (ii) consider both the quantity and strength of the pollutant, (iii) consider the length of time the degradation will occur, and (iv) consider the character of the pollutant so that greater significance is associated with carcinogens and toxins that bioaccumulate or biomagnify and lesser significance is associated with substances that are less harmful or less persistent. Under ARM 17.30.715(1)(b), concentrations of carcinogenic parameters or parameters with a bioconcentration factor greater than 300 cannot exceed the concentration in the receiving water in order for a discharge to be considered nonsignificant and thus exempt from nondegradation requirements under § 75-5-317, MCA.

ARM 17.30.705 (Applicable) provides that for any surface water, existing and anticipated uses and the water quality necessary to protect these uses must be maintained and protected unless degradation is allowed under the nondegradation rules at ARM 17.30.701 et seq. ARM 17.30.705 also specifies that degradation of high quality state waters may be allowed only according to the procedures in ARM 17.30.708, unless the change is deemed to be nonsignificant pursuant to ARM 17.30.715 or 17.30.716 (Applicable).

Section 75-5-308, MCA, (Applicable) allows DEQ to grant short-term exemptions from the water quality standards or short-term use that exceeds the water quality standards for the purpose of allowing certain emergency environmental remediation activities. However, any exemption must include conditions that minimize to the extent possible the magnitude of the violation and the length of time the violation occurs. The authorization must also include conditions that prevent significant risk to public health. In addition, the conditions must maximize the protection of state waters by ensuring the maintenance of beneficial uses immediately after termination of the exemption. Water quality and quantity monitoring and reporting may also be included as conditions.

Substantive Montana Pollution Discharge Elimination System (MPDES) Requirements: ARM 17.30.1342 – 1344 (Applicable) set forth the substantive requirements applying to all MPDES permits. These substantive requirements include the requirement to properly operate and maintain all facilities and systems of treatment and control.

B. Groundwater Quality Standards

In addition to the standards set forth below, relevant and appropriate MCLs and MCLGs are included in the federal ARARs identified above.

1. Montana Maximum Contaminant Levels (Relevant and Appropriate)

Pursuant to the Public Water Safety Act, 75-6-101 et seq., MCA and ARM 17.28.203, the MCLs specified in 40 CFR Part 141 (Primary Drinking Water Standards) are incorporated into State law. ARM 17.38.204 incorporates by reference into state law the MCLs for organic substances. The MCLs are relevant and appropriate where, like here, the aquifer is, or potentially could be, used as a drinking water source.

2. Groundwater Quality Standards (Applicable)

ARM 17.30.1006 (Applicable) classifies groundwater into Classes I through IV based upon its specific conductance and establishes the groundwater quality standards applicable with respect to each groundwater classification. Based upon its specific conductance, the majority of the groundwater in the defined alluvial aquifer of the Lockwood Solvent Groundwater Plume area is considered Class I or Class II groundwater.[25]

ARM 17.30.1006 (Applicable) states that concentrations of dissolved substances in Class I and Class II groundwater (or Class III groundwater which is used as a drinking water source) may not exceed the human health standards for groundwater listed in department Circular WQB-7. For the primary chemicals of concern these levels are listed below. Groundwater is measured in dissolved form according to WQB-7.

Contaminant of Potential Concern	**Human Health Standard (Groundwater)**
Trichloroethene (TCE)	5 µg/L
Tetrachloroethene (PCE)	5 µg/L
Cis-1,2-Dichloroethene (DCE)	70 µg/L
Trans- 1,2-Dichloroethene (DCE)	100 µg/L
Vinyl Chloride	2 µg/L

ARM 17.30.1011 (Applicable) provides that groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality unless degradation may be allowed under the principles established in § 75-5-303, MCA, and the nondegradation rules at ARM 17.30.701, et seq.

An additional concern with respect to ARARs for groundwater is the impact of groundwater upon the surface water. If significant loadings of contaminants from groundwater sources to the Yellowstone River or other surface water contribute to the inability of the surface water to meet its class standards, then alternatives to alleviate such groundwater loading must be evaluated and, if appropriate, implemented. Groundwater in certain areas may need to be remediated to levels more stringent than the groundwater classification standards in order to achieve the standards for affected surface water. See Compliance with Federal Water Quality Criteria, OSWER Publication 9234.2-09/FS (June 1990) ["Where the ground water flows naturally into the surface water, the ground-water remediation should be designed so that the receiving surface-water body will be able to meet any ambient water-quality standards (such as State water quality standards or federal water quality criteria) that may be ARARs for the surface water."].

[25] ARM 17.30.1006 provides that Class I groundwaters are those with specific conductance less than or equal to 1000 microSiemens per centimeter at 25< C; Class II groundwaters: greater than 1000 and no more than 2500; Class III groundwaters: greater than 2500 and no more than 15,000; and Class IV groundwaters: over 15,000.

C. Air Quality (Applicable)[26]

ARM 17.8.206. This provision establishes sampling, data collection and analytical requirements to ensure compliance with ambient air quality standards.

In addition to the standards identified in the federal action specific ARARs above, the State of Montana has identified certain air quality standards in the action-specific section of the State ARARs below.

V. MONTANA LOCATION SPECIFIC REQUIREMENTS

A. Floodplain and Floodway Management Act and Regulations, § 76-5-401, et seq., MCA, and ARM 36.15.601, et seq. (Applicable).

The Floodplain and Floodway Management Act and regulations specify types of uses and structures that are allowed or prohibited in the designated 100-year floodway[27] and floodplain.[28] These standards are applicable to all response actions contemplated for this site within the floodplain.

1. Allowed Uses

The law recognizes certain uses as allowable in the floodway and a broader range of uses as allowed in the floodplain. Residential use is among the possible allowed uses expressly recognized in both the floodway and floodplain. "Residential uses such as lawns, gardens, parking areas, and play areas," as well as certain agricultural, industrial-commercial, recreational and other uses are permissible within the designated floodway, provided they do not require structures other than portable structures, fill or permanent storage of materials or equipment. § 76-5-401, MCA; ARM 36.15.601. In addition, in the flood fringe (i. e., within the floodplain but outside the floodway), residential, commercial, industrial, and other structures may be permitted subject to certain conditions relating to placement of fill, roads, floodproofing, etc. § 76-5-402, MCA; ARM 36.15.701. Domestic water supply wells may be permitted, even within the floodway, provided the well casing is watertight to a depth of 25 feet and the well meets certain conditions for floodproofing, sealing, and positive drainage away from the well head. ARM 36.15.602(6).

---

[26] Each of the ambient air quality standards includes in its terms specific requirements and methodologies for monitoring and determining levels. Such requirements are also applicable requirements. In addition, ARM 17.8.204 and 17.8.206, Ambient Air Monitoring; Methods and Data, respectively (applicable), require that all ambient air monitoring, sampling and data collection, recording, analysis and transmittal shall be in compliance with the Montana Quality Assurance Manual except when more stringent requirements are determined by DEQ to be necessary.

[27] The floodway is the channel of a watercourse or drainway and those portions of the floodplain adjoining the channel which are reasonably required to carry and discharge the floodwater of the water course or drainway. ARM 36.15.101(13)

[28] The floodplain is the area adjoining the water course or drainway which would be covered by the floodwater of a base (100 year) flood except for sheet flood areas that receive less than one foot of water per occurrence. The floodplain consists of the floodway and flood fringe. ARM 36.15.101(11).

2. Prohibited Uses

Uses prohibited anywhere in either the floodway or the floodplain are:

1. solid and hazardous waste disposal; and
2. storage of toxic, flammable, hazardous, or explosive materials.

ARM 36.15.605(2) and 36.15.703.

In the floodway, additional prohibitions apply, including prohibition of:

1. a building for living purposes or place of assembly or permanent use by human beings;
2. any structure or excavation that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway; and
3. the construction or permanent storage of an object subject to flotation or movement during flood level periods.

Section 76-5-403, MCA.

3. Applicable considerations in use of floodplain or floodway

Applicable regulations also specify factors that must be considered in allowing diversions of the stream, changes in place of diversion of the stream, flood control works, new construction or alteration of artificial obstructions, or any other nonconforming use within the floodplain or floodway. Many of these requirements are set forth as factors that must be considered in determining whether a permit can be issued for certain obstructions or uses. While permit requirements are not directly applicable to remedial actions conducted entirely on site, the substantive criteria used to determine whether a proposed obstruction or use is permissible within the floodway or floodplain are applicable standards. Factors, which must be considered in addressing any obstruction or use within the floodway or floodplain, include:

1. the danger to life and property from backwater or diverted flow caused by the obstruction or use;
2. the danger that the obstruction or use will be swept downstream to the injury of others;
3. the availability of alternate locations;
4. the construction or alteration of the obstruction or use in such a manner as to lessen the danger;
5. the permanence of the obstruction or use; and
6. the anticipated development in the foreseeable future of the area which may be affected by the obstruction or use.

See § 76-5-406, MCA; ARM 36.15.216 (substantive provisions only).

Conditions or restrictions that generally apply to specific activities within the floodway or floodplain are:

1. the proposed activity, construction, or use cannot increase the upstream elevation of the 100-year flood a significant amount (one-half foot or as otherwise determined by the

permit issuing authority) or significantly increase flood velocities, ARM 36.15.604 (Applicable, substantive provisions only); and

2. the proposed activity, construction, or use must be designed and constructed to minimize potential erosion, see ARM 36.15.605.

For the substantive conditions and restrictions applicable to specific obstructions or uses, see the following applicable regulations:

ARM 36.15.602 (1)	Excavation of material from pits or pools.
ARM 36.15.603	Water diversions or changes in place of diversion.
ARM 36.15.606	Flood control works.
ARM 36.15.701(3)(c)	Roads, streets, highways and rail lines (must be designed to minimize increases in flood heights).
ARM 36.15.701(3)(d)	Structures and facilities for liquid or solid waste treatment and disposal (must be floodproofed to ensure that no pollutants enter flood waters and may be allowed and approved only in accordance with DEQ regulations, which include certain additional prohibitions on such disposal).-
ARM 36.15.702(1)	Residential structures.
ARM 36.15.702(2)	Commercial or industrial structures.

B. Solid Waste Management Regulations (Applicable)

Regulations promulgated under the Solid Waste Management Act, § 75-10-201, et seq., MCA (ARM 17.50.501, et seq.), specify requirements that apply to the location of any solid waste management facility. Under ARM 17.50.505, a facility for the treatment, storage or disposal of solid wastes:

1. must be located where a sufficient acreage of suitable land is available for solid waste management;
2. may not be located in a 100-year floodplain;
3. may be located only in areas which will prevent the pollution of ground and surface waters and public and private water supply systems;
4. must be located to allow for reclamation and reuse of the land;
5. drainage structures must be installed where necessary to prevent surface runoff from entering waste management areas; and
6. where underlying geological formations contain rock fractures or fissures which may lead to pollution of the ground water or areas in which springs exist that are hydraulically connected to a proposed disposal facility, only Class III disposal facilities may be approved[29].

Even Class III landfills may not be located on the banks of or in a live or intermittent stream or water saturated areas, such as marshes or deep gravel pits which contain exposed ground water. ARM 17.54.505(2)(j).

In addition, § 75-10-212, MCA prohibits dumping or leaving any debris or refuse upon or within 200 yards of any highway, road, street, or alley of the State or other public property, or on privately owned property where hunting, fishing, or other recreation is permitted. However, the restriction relating to

[29] Group III consist of primarily inert wastes, including industrial mineral wastes which are essentially inert and non-water soluble and do not contain hazardous waste constituents. ARM 17.50.503(1)(b).

privately owned property does not apply to the owner, his agents, or those disposing of debris or refuse with the owner's consent.

C. Natural Streambed and Land Preservation Standards (Applicable)

Sections 87-5-502 and 504, MCA, (substantive provisions only) provide that a state agency or subdivision shall not construct, modify, operate, maintain or fail to maintain any construction project or hydraulic project which may or will obstruct, damage, diminish, destroy, change, modify, or alter the natural existing shape and form of any stream or its banks or tributaries in a manner that will adversely affect any fish or game habitat. The requirement that any such project must eliminate or diminish any adverse effect on fish or game habitat is applicable to the state in concurring upon any remedial actions to be conducted. The Natural Streambed and Land Preservation Act of 1975, § 75-7-101, et seq., MCA, includes substantive requirements and is applicable to private parties as well as government agencies.

While the administrative/procedural requirements including the consent and approval requirement set forth in these statutes and regulations are not ARARs, the party designing and implementing the remedial action for the Lockwood site is encouraged to continue to consult with the Montana Department of Fish Wildlife and Parks and any conservation district or board of county commissioners (or consolidated city/county government) as provided in the referenced statutes, to assist in the evaluation of factors discussed above.

ARM 36.2.410 establishes minimum standards which would be applicable if a remedial action alters or affects a streambed, including any channel change, new diversion, riprap or other streambank protection project. Projects must be designed and constructed using methods that minimize adverse impacts to the stream (both upstream and downstream) and future disturbances to the stream. All disturbed areas must be managed during construction and reclaimed after construction to minimize erosion. Temporary structures used during construction must be designed to handle high flows reasonably anticipated during the construction period. Temporary structures must be completely removed from the stream channel at the conclusion of construction and the area must be restored to a natural or stable condition. Channel alternation must be designed to retain original stream length or otherwise provide hydrologic stability. Streambank vegetation must be protected except where removal of such vegetation is necessary for the completion of the project. When removal of vegetation is necessary, it must be kept to a minimum. Riprap, rock, and other material used in a project must be of adequate size, shape and density and must be properly placed to protect the streambank from erosion. The placement of road fill material in a stream, the placement of debris or other materials in a stream where it can erode or float into the stream, projects that permanently prevent fish migration, operation of construction equipment in a stream, and excavation of streambed gravels are prohibited unless specifically authorized by the district. Such projects must also protect the use of water for any useful or beneficial purpose. See § 75-7-102, MCA.

VI. MONTANA ACTION SPECIFIC REQUIREMENTS

A. Water Quality Statute and Regulations (Applicable).

See discussion above in Montana Contaminant Specific Requirements.

B. Montana Stormwater Requirements (Applicable).

Under ARM 17.30.601, et seq., ARM 17.30.1105 and 17.30.1341, the DEQ Water Quality Division has issued general stormwater permits for certain activities. The substantive requirements of the following permits are applicable for the following activities:

For construction activities: General Permit for Storm Water Discharge Associated with Construction Activity, Permit No. MTR100000 (June 8, 2002);

For industrial activities: General Permit for Storm Water Discharge Associated with Industrial Activity, Permit No. MTR000000 (October 1, 2001).

Generally, the permits require the permittee to implement Best Management Practices (BMP) and to take all reasonable steps to minimize or prevent any discharge which has a reasonable likelihood of adversely affecting human health or the environment. However, if there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with the activity, an individual MPDES permit or alternative general permit may be required.

A related mine reclamation requirement is set out in ARM 17.24.633 (relevant and appropriate), which requires that all surface drainage from disturbed areas that have been graded, seeded or planted must be treated by the best technology currently available (BTCA) before discharge. Sediment control through BTCA practices must be maintained until the disturbed area has been reclaimed, the revegetation requirements have been met, and the area meets state and federal requirements for the receiving stream.

C. Air Quality (Applicable)

Dust suppression and control of certain substances likely to be released into the air as a result of earth moving, transportation and similar actions related to remedial activity at the Lockwood Solvent Ground Water Plume Site may be necessary to meet air quality requirements. Certain ambient air standards for specific contaminants and particulates are set forth in the federal action specific section above. Additional air quality regulations under the state Clean Air Act, § 75-2-101, et seq., MCA, are discussed below.

Air Quality Regulations (Applicable)

ARM 17.8.604 (Applicable) lists certain wastes that may not be disposed of by open burning, including oil or petroleum products, RCRA hazardous wastes, chemicals, and treated lumber and timbers. Any waste which is moved from the premises where it was generated and any trade waste (material resulting from construction or operation of any business, trade, industry, or demolition project) may be open burned only in accordance with the substantive requirements of ARM 17.8.611 or 612.

ARM 17.8.308(1), (2) and (3) (Applicable) provide that no person shall cause or authorize the production, handling, transportation or storage of any material, cause or authorize the use of any street, road, or parking lot, or operate a construction site or demolition project, unless reasonable precautions to control emissions of airborne particulate matter are taken. Emissions of airborne particulate matter must be controlled so that they do not "exhibit an opacity of twenty percent (20%) or greater averaged over six consecutive minutes." See also ARM 17.8.304(2) (Applicable).

In addition, state law provides an ambient air quality standard for settled particulate matter. Particulate matter concentrations in the ambient air shall not exceed the following 30-day average: 10 grams per square meter. ARM 17.8.220 (Applicable). Whenever this standard is exceeded, the activity resulting in such exceedance shall be suspended until such time as conditions improve.

ARM 17.24.761 (Relevant and Appropriate) specifies a range of measures for controlling fugitive dust emissions during mining and reclamation activities. Some of these measures could be considered relevant

and appropriate to control fugitive dust emissions in connection with excavation, earth moving and transportation activities conducted as part of the remedy at the site. Such measures include, for example, paving, watering, chemically stabilizing, or frequently compacting and scraping roads, promptly removing rock, soil or other dust-forming debris from roads, restricting vehicle speeds, revegetating, mulching, or otherwise stabilizing the surface of areas adjoining roads, restricting unauthorized vehicle travel, minimizing the area of disturbed land, and promptly revegetating regraded lands.

D. Solid Waste Management Regulations (Applicable)

As noted above, the Solid Waste Management Regulations are applicable to the disposal or active management of solid waste, such as contaminated soils (not determined to be hazardous wastes), at the Lockwood Solvent Ground Water Plume Site. Certain of these regulations are identified in the state location specific ARARs above. Action specific solid waste regulations are discussed below:

ARM 17.50.505(1) and (2) specify standards for solid waste management facilities, including the requirements that:

1. Class II[30] landfills must confine solid waste and leachate to the disposal facility. If there is the potential for leachate[31] migration, it must be demonstrated that leachate will only migrate to underlying formations which have no hydraulic continuity with any state waters;

2. Adequate separation of group II wastes from underlying or adjacent water must be provided;[32] and

3. No new disposal units or lateral expansions may be located in wetlands.

ARM 17.50.505 also specifies general soil and hydrogeological requirements pertaining to the location of any solid waste management facility.

ARM 17.50.506 specifies design requirements for landfills.[33] Landfills must either be designed to ensure that MCLs are not exceeded or the landfill must contain a composite liner and leachate collection system which comply with specified criteria.

ARM 17.50.511 sets forth general operational and maintenance and design requirements for solid waste management systems. Specific operational and maintenance requirements specified in ARM 17.50.511[34]

---

[30] Generally Class II landfills are licensed to receive Group II and Group III waste, but not regulated hazardous waste. Class III landfills may only receive Group III waste.

[31] Leachate is defined as a liquid which has contacted passed through, or emerged from solid waste and contains soluble, suspended, or miscible materials removed from the waste. ARM 17.50.502(29).

[32] The extent of separation shall be established on a case-by-case basis, considering terrain and the type of underlying soil formations, and facility design.

[33] Landfills are defined as an area of land or an excavation where wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile. ARM 17.50.502(27).

[34] ARM 17.50.511(c), 17.50.511(1)(j), 17.50.511(l)(k) and 17.50.511(1)(l).

that are relevant and appropriate are requirements for run-on and runoff control systems, requirements that sites be fenced to prevent unauthorized access, and prohibitions of point source and nonpoint source discharges which would violate Clean Water Act requirements.

ARM 17.50.523 specifies that solid waste must be transported in such a manner as to prevent its discharge, dumping, spilling or leaking from the transport vehicle.

ARM 17.50.530 sets forth the closure[35] requirements for landfills. Class II landfills must meet the following criteria:

1. Install a cover that is designed to minimize infiltration and erosion;

2. Design and construct the final cover system to minimize infiltration through the closed unit by the use of an infiltration layer that contains a minimum 18 inches of earthen material and has a permeability less than or equal to the permeability of any bottom liner, barrier layer, or natural subsoils or a permeability no greater than 1×10^{-5} cm/sec, whichever is less;

3. Minimize erosion of the final cover by the use of a seed bed layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth and protecting the infiltration layer from frost effects and rooting damage; and

4. Revegetate the final cover with native plant growth within one year of placement of the final cover.

ARM 17.50.530(1)(b) allows an alternative final cover design if the infiltration layer achieves reduction in infiltration at least equivalent to the stated criteria and the erosion layer provides protection equivalent to the stated criteria.

ARM 17.50.531 sets forth post closure care requirements for Class II landfills. Post closure care must be conducted for a period sufficient to protect human health and the environment. Post closure care requires maintenance of the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the cover and comply with the groundwater monitoring requirements found at ARM Title 17, chapter 50, subchapter 7.

Section 75-10-206, MCA, allows variances to be granted from solid waste regulations if failure to comply with the rules does not result in a danger to public health or safety or compliance with specific rules would produce hardship without producing benefits to the health and safety of the public that outweigh the hardship.

---

[35] Closure means the process by which the operator closes all or part of the facility.

E. Hazardous Waste Requirements (Applicable or Relevant and Appropriate)

The Montana Hazardous Waste Act, § 75-10-401, et seq., MCA, and regulations under that act, ARM Title 17, Chapter 53, establish a regulatory structure for the generation, transportation, treatment, storage and disposal of hazardous wastes. The requirements would be applicable if any substances at the site are determined to be listed or characteristic hazardous wastes.

F. Reclamation Requirements (Relevant and Appropriate)

The Strip and Underground Mine Reclamation Act, §§ 82-4-201 through 254, et seq., MCA, technically applies to coal and uranium mining, but that statute and the regulations promulgated under that statute and discussed in this section, set out the standards should be attained in any remedial action involving soil disturbance (e.g., clearing and grubbing, stripping and stockpiling topsoil, excavation, backfilling, regrading or revegetation). The requirements identified here have been determined to be relevant and appropriate requirements for this action. Section 82-4-231, MCA (Relevant and Appropriate) requires the reclamation and revegetation of the land as rapidly, completely, and effectively as the most modern technology and the most advanced state of the art will allow. In developing a method of operation and plans of backfilling, water control, grading, topsoiling and reclamation, all measures shall be taken to eliminate damages to landowners and members of the public, their real and personal property, public roads, streams, and all other public property from soil erosion, subsidence, landslides, water pollution, and hazards dangerous to life and property. ARM 17.24.505 (Relevant and Appropriate) similarly provides that acid, acid forming, toxic, toxic-forming or other deleterious materials must not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution.

Section 82-4-231, MCA provides that vegetation must be planted that will yield a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area and capable of self-regeneration.

Section 82-4-336, MCA provides that disturbed areas must be reclaimed to utility and stability comparable to areas adjacent.

Reclamation Activities - Hydrology Regulations (Relevant and Appropriate)

The hydrology regulations promulgated under the Strip and Underground Mine Reclamation Act, §§ 82-4-201, et seq., MCA, provide detailed guidelines for addressing the hydrologic impacts of earth-moving projects and are relevant and appropriate for addressing these impacts at this site.

ARM 17.24.631 (Relevant and Appropriate) provides that long-term adverse changes in the hydrologic balance, such as changes in water quality and quantity, and location of surface water drainage channels shall be minimized. Water pollution must be minimized and, where necessary, treatment methods utilized. Diversions of drainage to avoid contamination must be used in preference to the use of water treatment facilities. Other pollution minimization devices must be used if appropriate, including stabilizing disturbed areas through land shaping, diverting runoff, planting quickly germinating and growing stands of temporary vegetation, regulating channel velocity of water, lining drainage channels with rock or vegetation, mulching, and control of acid-forming, and toxic-forming waste materials.

ARM 17.24.634 (Relevant and Appropriate) provides that drainage design must emphasize channel and floodplain dimensions that approximate the pre-mining configuration and that will blend with the undisturbed drainage above and below the disturbed area. The average stream gradient must be

maintained with a concave longitudinal profile. This regulation provides specific requirements for designing the drainage to:

1. approximate an appropriate geomorphic habit or characteristic pattern;
2. remain in dynamic equilibrium with the system without the use of artificial structural controls;
3. improve unstable premining conditions;
4. provide for floods and for the long-term stability of the landscape; and
5. establish a premining diversity of aquatic habitats and riparian vegetation.

ARM 17.24.635 through 17.24.637 (Relevant and Appropriate) set forth requirements for temporary and permanent diversions.

ARM 17.24.638 (Relevant and Appropriate) specifies sediment control measures to be implemented during operations.

ARM 17.24.639 (Relevant and Appropriate) sets forth requirements for temporary and permanent sedimentation ponds.

ARM 17.24.640 (Relevant and Appropriate) provides that discharge from sedimentation ponds, permanent and temporary impoundments, and diversions shall be controlled, where necessary, to reduce erosion, prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance.

ARM 17.24.643 through 17.24.646 (Relevant and Appropriate) provide for groundwater protection, groundwater recharge protection, and groundwater and surface water monitoring.

Reclamation Activities - Revegetation Requirements (Relevant and Appropriate)

ARM 17.24.501 (Relevant and Appropriate) provides general backfilling and grading requirements including the following: Backfill must be placed so as to minimize sedimentation, erosion, and leaching of acid or toxic materials into waters, unless otherwise approved. Final grading must be to the approximate original contour of the land and final slopes must be graded to prevent slope failure, may not exceed the angle of repose, and must achieve a minimum long term static safety of factor of 1:3. The disturbed area must be blended with surrounding and undisturbed ground to provide a smooth transition in topography. Note, however, that effective January 1, 2004, § 82-4-232, MCA, will allow, with DEQ's approval, regraded topography to be gentler than premining topography in order to enhance the postmining land use and develop a postmining landscape that will provide greater moisture retention, greater stability, and reduced soil losses from runoff and erosion.

ARM 17.24.519 (Relevant and Appropriate) provides that monitoring for settling of regraded areas may be required.

ARM 17.24.701 and 702 (Relevant and Appropriate) identify requirements for redistribution and stockpiling of soil for reclamation. They also outline practices to prevent compaction, slippage, erosion, and deterioration of biological properties of soil.

ARM 17.24.703 (Relevant and Appropriate) requires that when using materials other than, or along with, soil for final surfacing in reclamation, it must be demonstrated that the material (1) is at least as capable as the soil of supporting the approved vegetation and subsequent land use, and (2) the medium must be

the best available in the area to support vegetation. Such substitutes must be used in a manner consistent with the requirements for redistribution of soil in ARM 17.24.701 and 702.

ARM 17.24.711 (Relevant and Appropriate) requires that a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of land to be affected shall be established except on road surfaces and below the low-water line of permanent impoundments. See also § 82-4-233, MCA (Relevant and Appropriate). Vegetative cover is considered of the same seasonal variety if it consists of a mixture of species of equal or superior utility when compared with the natural vegetation during each season of the year. (See also ARM 17.24.716 and 719 below regarding substitution of introduced species for native-species). This requirement may not be appropriate where other cover is more suitable for the particular land use or another cover is requested by the landowner.

ARM 17.24.713 (Relevant and Appropriate) provides that seeding and planting of disturbed areas must be conducted during the first appropriate period for favorable planting after final seedbed preparation.

ARM 17.24.714 (Relevant and Appropriate) requires use of a mulch or cover crop or both until an adequate permanent cover can be established. Use of mulching and temporary cover may be suspended under certain conditions.

ARM 17.24.716 (Relevant and Appropriate) establishes the required method of revegetation, and provides that introduced species may be substituted for native species as part of an approved plan.

ARM 17.24.717 (Relevant and Appropriate) relates to the planting of trees and other woody species if necessary, as provided in § 82-4-233, MCA, to establish a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the affected area and capable of self-regeneration and plant succession at least equal to the natural vegetation of the area, except that introduced species may be used in the revegetation process where desireable and necessary to achieve the approved land use plan.

ARM 17.24.718 (Relevant and Appropriate) requires the use of soil amendments and other means such as irrigation, management, fencing, or other measures, if necessary to establish a diverse and permanent vegetative cover.

ARM 17.24.721 (Relevant and Appropriate) specifies that rills or gullies in reclaimed areas must be filled, graded or otherwise stabilized and the area reseeded or replanted if the rills and gullies are disrupting the reestablishment of the vegetative cover or causing or contributing to a violation of water quality standards for a receiving stream.

ARM 17.24.723 (Relevant and Appropriate) sets forth requirements for vegetation, soils, wildlife, and other monitoring.

ARM 17.24.724 (Relevant and Appropriate) specifies that revegetation success must be measured against approved reference areas or by comparison with technical standards from historic data. More than one reference area or historic record must be established for vegetation types with significant variation due to a number of factors.

ARM 17.24.726 (Relevant and Appropriate) sets forth vegetation production, cover, diversity, density, and utility requirements.

ARM 17.24.728 (Relevant and Appropriate) sets forth performance standards for native species and introduced species in revegetated areas.

ARM 17.24.733 (Relevant and Appropriate) sets forth performance standards for composition and stocking of trees, shrubs, and half shrubs on the revegetated area and for measurement of revegetation success.

ARM 17.24.751 (Relevant and Appropriate). Measures to prevent degradation of fish and wildlife habitat will be employed.

Noxious Weeds: Section 7-22-2101(8), MCA (Applicable) defines "noxious weeds" as any exotic plant species established or that may be introduced in the state that may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses or that may harm native plant communities and that is designated: (i) as a statewide noxious weed by rule of the department; or (ii) as a district noxious weed by a board, following public notice of intent and a public hearing. Designated noxious weeds are listed in ARM 4.5.201 through 4.5.204 and must be managed consistent with weed management criteria developed under § 7-22-2109(2)(b), MCA.

TO BE CONSIDERED DOCUMENTS (TBCs)

The use of documents identified as TBCs is addressed in the Introduction, above. A list of TBC documents is included in the Preamble to the NCP, 55 Fed. Reg. 8765 (March 8, 1990). Documents identified in Section 12 of the Record of Decision as references are also deemed to be TBCs for the Lockwood Solvent Ground Water Plume Site. One additional guidance document is specifically identified as a TBC for protectiveness: EPA's Guide For Conducting Treatability Studies under CERCLA: Thermal Desorption Remedy Selection, September 1992. Those documents, plus any additional similar or related documents issued since that time, will be considered by EPA and DEQ during the conduct of the remedial design and implementation of the remedial action.

OTHER LAWS (NON-EXCLUSIVE LIST)

CERCLA defines as ARARs only federal environmental and state environmental and siting laws. Remedial design, implementation, and operation and maintenance must nevertheless comply with all other applicable laws, both state and federal, if the remediation work is done by parties other than the federal government or its contractors.

The following "other laws" are included here to provide a reminder of other legally applicable requirements for actions being conducted at the Lockwood Solvent Ground Water Plume Site. They do not purport to be an exhaustive list of such legal requirements, but are included because they set out related concerns that must be addressed and, in some cases, may require some advance planning. They are not included as ARARs because they are not "environmental or facility siting laws." As applicable laws other than ARARs, they are not subject to ARAR waiver provisions.

Section 121(e) of CERCLA exempts removal or remedial actions conducted entirely on-site from federal, state, or local permits. This exemption is not limited to environmental or facility siting laws, but applies to other permit requirements as well.

Other Federal Laws

Occupational Safety and Health Regulations

The federal Occupational Safety and Health Act regulations found at 29 CFR Part 1910 and Part 1926 are applicable to worker protection during conduct of all remedial activities.

Other Montana Laws

A. Groundwater Act

The Groundwater Act, § 85-2-501, et seq., MCA, and implementing regulations, ARM 17.30.601, et seq. govern uses of groundwater and provide measures to protect groundwater from depletion or contamination. The regulations also set requirements for water wells.

Section 85-2-505, MCA, precludes the wasting of groundwater. Any well producing waters that contaminate other waters must be plugged or capped, and wells must be constructed and maintained so as to prevent waste, contamination, or pollution of groundwater.

Section 85-2-516, MCA, states that within 60 days after any well is completed a well log report must be filed by the driller with the DNRC and the appropriate county clerk and recorder.

B. Public Water Supply Regulations

If remedial action at the site requires any reconstruction or modification of any public water supply line or sewer line, the construction standards specified in ARM 17.38.101(4) (Applicable) must be observed.

C. Water Rights

Section 85-2-101, MCA, declares that all waters within the state are the state's property, and may be appropriated for beneficial uses. The wise use of water resources is encouraged for the maximum benefit to the people and with minimum degradation of natural aquatic ecosystems.

Parts 3 and 4 of Title 85, Chapter 2, MCA, set out requirements for obtaining water rights and appropriating and utilizing water. All requirements of these parts are laws which must be complied with in any action using or affecting waters of the state. Some of the specific requirements are set forth below.

Section 85-2-301, MCA, of Montana law provides that a person may only appropriate water for a beneficial use.

Section 85-2-302, MCA, specifies that a person may not appropriate water or commence construction of diversion, impoundment, withdrawal or distribution works therefore except by applying for and receiving a permit from the Montana Department of Natural Resources and Conservation. While the permit itself may not be required under federal law, appropriate notification and submission of an application should be performed and a permit should be applied for in order to establish a priority date in the prior appropriation system.

Section 85-2-306, MCA, specifies the conditions on which groundwater may be appropriated, and, at a minimum, requires notice of completion and appropriation within 60 days of well completion.

Section 85-2-311, MCA, specifies the criteria which must be met in order to appropriate water and includes requirements that:

1. there are unappropriated waters in the source of supply;
2 the proposed use of water is a beneficial use; and
3. the proposed use will not interfere unreasonably with other planned uses or developments.

Section 85-2-402, MCA, specifies that an appropriator may not change an appropriated right except as provided in this section with the approval of the DNRC.

Section 85-2-412, MCA, provides that, where a person has diverted all of the water of a stream by virtue of prior appropriation and there is a surplus of water over and above what is actually and necessarily used, such surplus must be returned to the stream.

D. Controlled Ground Water Areas

Pursuant to § 85-2-507, MCA, the Montana Department of Natural Resources and Conservation may grant either a permanent or a temporary controlled ground water area. The maximum allowable time for a temporary area is two years, with a possible two-year extension.

Pursuant to § 85-2-506, MCA, designation of a controlled ground water area may be proposed if: (i) excessive ground water withdrawals would cause contaminant migration; (ii) ground water withdrawals adversely affecting ground water quality within the ground water area are occurring or are likely to occur; or (iii) ground water quality within the ground water area is not suited for a specific beneficial use.

E. Occupational Health Act, § 50-70-101, et seq., MCA.

ARM 17.74.101 addresses occupational noise. In accordance with this section, no worker shall be exposed to noise levels in excess of the levels specified in this regulation. This rule is applicable only to limited categories of workers and for most workers the similar federal standard in 29 CFR 1910.95 applies.

ARM 17.74.102 addresses occupational air contaminants. The purpose of this rule is to establish maximum threshold limit values for air contaminants under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects. In accordance with this rule, no worker shall be exposed to air contaminant levels in excess of the threshold limit values listed in the rule. This rule is applicable only to limited categories of workers and for most workers the similar federal standard in 29 CFR § 1910.1000 applies.

F. Montana Safety Act

Sections 50-71-201, 202 and 203, MCA, state that every employer must provide and maintain a safe place of employment, provide and require use of safety devices and safeguards, and ensure that operations and processes are reasonably adequate to render the place of employment safe. The employer must also do every other thing reasonably necessary to protect the life and safety of its employees. Employees are prohibited from refusing to use or interfering with the use of safety devices.

G. Employee and Community Hazardous Chemical Information

Sections 50-78-201, 202, and 204, MCA, state that each employer must post notice of employee rights, maintain at the work place a list of chemical names of each chemical in the work place, and indicate the work area where the chemical is stored or used. Employees must be informed of the chemicals at the work place and trained in the proper handling of the chemicals.